Piedmont forest: The state's most populated region is represented by a diorama that shows a forest in succession. One side of a stream depicts a 75- to 150-year-old oak-hickory forest. The other side shows a forest consisting of pine, red cedar, red maple, and other early colonizing species establishing itself in a farm field that was abandoned 20 to 30 years ago. Familiar plants include white oak, sweet gum, blackberry, Christmas ferns, and pink and yellow lady's slipper orchids. Look for deer, a sleeping opossum, a busy beaver, and two box turtles. A mating pair of rat snakes has attracted the attention of a scolding blue jay, a tufted titmouse, and a gray squirrel. Flying overhead, a red-tailed hawk clutches its squirrel prey while a dive-bombing crow follows closely. Lazily watching it all is a sleepy raccoon and several birds high in the live and dead white oak trees. A major focal point is a portion of a beaver pond and dam.

Waterfall: A 20-foot waterfall cascades into a brook trout tank in this area which tells the story of the steep rocky faces along our mountain slopes. The rock tells an important geologic story about the tremendous forces that shaped our state. A thrust fault similar to the one at Linville Falls is shown on the right side of the diorama, as is the fine powder known as rock flour, produced by the fault's grinding and erosive action. Just below the fault, a timber rattlesnake lies in wait for its next meal and a long-tailed weasel steps out into the open just above. High overhead, a flock of cedar waxwings descends onto a serviceberry tree. Other plants such as rhododendron, mountain laurel, and various grasses and wildflowers cling to the shallow soils of the rocky slopes.

Spruce-fir forest: North Carolina's highest elevations have evergreen forests more similar to those in Canada than to any other forest in our state. The cold, harsh conditions and short growing season found at elevations above 4,500 feet (such as Mount Mitchell and Grandfather Mountain) have allowed a unique assemblage of plants and animals to survive. The dominant trees at these high elevations are red spruce and fraser fir. The diorama tells the story of what is happening to these high-elevation forests—one side shows a healthy spruce-fir stand; the other shows a number of dead trees. The fraser fir is declining as a result of the balsam wooly adelgid, an exotic pest introduced in the 1950s. This tiny insect feeds on fraser fir tree sap, and by introducing a toxin, gradually kills heavily infested trees. Red spruce is also showing signs of decreased growth rates, believed to be due to increased air pollution in these high elevation forests. Increased pollution is also thought to further stress the fraser fir, making it even more susceptible to the adelgids. Look for a bobcat, two ravens, a least weasel with prey, a saw-whet owl (our smallest N.C. owl), and other birds, including juncos, a veery, and a red-breasted nuthatch.

Mountain cove forest: The final stop shows a serene forest cathedral rich in wildflowers. This diorama highlights diverse old growth forests found in a few places in our mountains, such as Joyce Kilmer Memorial Forest. Look for several neotropical migrant birds (a black and white warbler, a black-throated blue warbler, an ovenbird, a wood thrush, and a pair of scarlet tanagers). A deer and two chipmunks are surrounded by a colorful wildflower display showcasing species such as trillium, wild geranium, phlox, foamflower, bloodroot, and false Solomon's seal.

North Carolina Science Curriculum:

Areas of the North Carolina science curriculum addressed in the Mountains to the Sea exhibit hall include:

Strands

K-8

- Nature of Science
- Science as Inquiry
- Science and Technology
- Personal and Social Perspectives

Competency Goals

K-5

- Animal Growth and Adaptations
- Interdependence of Plants and Animals
- Plant and Animal Life Cycles
- Plant Growth and Adaptations
- Properties of Movement of Organisms and Objects
- Similarities and Differences in Plants and Animals
- Solid Earth Materials
- Weather

6-8

- Change or Constancy in Organisms and Landforms over Time
- Energy Flow through Ecosystems
- Population Dynamics